

Appendix 8: Quantified Risk Assessment (QRA)
 Elwick By-Pass, Overbridge and Compact Grade Separated Junction

	Risk Level
High	12 to 16
Medium	6 to 9
Low	1 to 4

Risk Quantified	
Optimistic	#####
Most Likely	#####
Pessimistic	#####

REVISION DATE: 23.06.17

Risk Ref	Category	Description	Consequences	Chance	Impact on Project		Risk Level	Risk Probability						ACTION PLAN / COUNTER MEASURES	RISK RESPONSE		
					Probability of Occurrence	Time		Cost	Level of Risk (function of probability and impact)	Optimistic	Most Likely	Pessimistic	Probability		Risk Quantification (Optimistic)	Risk Quantification (Most Likely)	Risk Quantification (Pessimistic)
1	Funding	Failure to secure funding	Scheme does not proceed or is delayed Failure to meet objectives including delivery of housing	3	4	4	12	£ 600,000.00	£ 800,000.00	£ 1,000,000.00	50%	£ 300,000	£ 400,000	£ 500,000	Consider other gap funding sources	HBC	Open
2	Programme	Failure to obtain planning permission	Delays to the scheme	1	3	3	3	£ 200,000.00	£ 400,000.00	£ 600,000.00	5%	£ 10,000	£ 20,000	£ 30,000	The scheme will help to address strategies contained within the proposed Local Plan	HBC	Open
3	Construction	Unknown engineering deliverability risks resulting in delay to scheme from extended construction period and/or insufficient available funding	Increased costs and impact on programme	3	3	3	9	£ 200,000.00	£ 400,000.00	£ 600,000.00	50%	£ 100,000	£ 200,000	£ 300,000	Risk reduction through completion of feasibility work to inform engineering feasibility and costs	HBC	Open
4	Costs	Inflation rate volatility	Cost of scheme becomes unviable	3	3	3	9	£ 200,000.00	£ 400,000.00	£ 600,000.00	50%	£ 100,000	£ 200,000	£ 300,000	Risk mitigation through appropriate allowances included within the cost plan based on anticipated start of the construction works.	HBC	Open
5	Environmental	Impact to designated heritage assets or archaeological sites results in delay to programme (through the need for further archaeological works) and/or required amendment to scheme	Poor public perception and reputational damage Re-design of scheme elements Delays to the scheme	2	2	2	4	£ 100,000.00	£ 150,000.00	£ 200,000.00	20%	£ 20,000	£ 30,000	£ 40,000	Risk mitigation through early engagement with Historic England	HBC	Open
6	People	Support / confidence in the scheme from Key Stakeholders decreases	Failure to meet objectives Poor public perception and reputational damage Further consultation and engagement Loss of funding commitment	1	3	3	3	£ 200,000.00	£ 400,000.00	£ 600,000.00	5%	£ 10,000	£ 20,000	£ 30,000	Risk reduction through the development of a comprehensive communications strategy, focussing on who the stakeholder is, their interests and ability to influence the highway proposals.	HBC	Open
7	Programme	Unknown extent of required statutory utility diversions risks increasing costs or causing delay to scheme	Delays to the scheme	3	3	3	9	£ 200,000.00	£ 400,000.00	£ 600,000.00	50%	£ 100,000	£ 200,000	£ 300,000	Risk mitigation through detailed statutory utilities at the appropriate stage of design.	HBC	Open
8	Programme	Scheme shows slippage against proposed timescales and targets.	Loss of funding commitment Delays to programme dependencies	2	3	3	6	£ 200,000.00	£ 400,000.00	£ 600,000.00	20%	£ 40,000	£ 80,000	£ 120,000	Risk reduction through robust programme management and monitoring procedures.	HBC	Open
9	Communication strategy	Risk that engagement process fails to meet objectives and delays scheme	Failure to meet objectives Poor public perception and reputational damage Further consultation and engagement Re-design of works Delays to programme	2	3	3	6	£ 200,000.00	£ 400,000.00	£ 600,000.00	20%	£ 40,000	£ 80,000	£ 120,000	Risk mitigation through a combination of a comprehensive communication strategy, programme management and scenario planning	HBC	Open
10	Environmental	Legally protected and/or notable ecological species impacted by the scheme results in delay to programme from required survey and/or mitigation	Delays to programme due to restricted working Costs to re-locate species or make provisions to re-house or improve habitat, e.g more tree planting Additional survey requirements Re-design costs	2	3	3	6	£ 200,000.00	£ 400,000.00	£ 600,000.00	20%	£ 40,000	£ 80,000	£ 120,000	Risk reduction through the completion of a Habitat Survey to identify any constraints or issues / constraints which need to be addressed as part of the emerging design.	HBC	Open
11	Programme	Resource demands of existing programmes delivered by other directorates limits availability of support functions (legal, etc)	Delays to the project and workstreams	1	2	2	2	£ 100,000.00	£ 150,000.00	£ 200,000.00	5%	£ 5,000	£ 7,500	£ 10,000	Risk reduction by advising support functions of required inputs and programme from outset	HBC	Open
12	Programme	Lack of requisite skills in-house risks delay to scheme due to resultant procurement requirement	Delays due to procurement of services to fill skills gap Quality of scheme suffers and chance of funding approval reduced	1	2	2	2	£ 100,000.00	£ 150,000.00	£ 200,000.00	5%	£ 5,000	£ 7,500	£ 10,000	Develop a procurement strategy to ensure skills and expertise are available to support the respective project work streams and functions.	HBC	Open
13	Procurement	There is a risk that the procurement of the works causes delays and misalignment with costs and programme	Reconsider procurement strategy Inability to deliver scheme within timeframe Loss of funding commitment Cost to re-allocate resources to other programmes and workstreams and / or cancel any commitments.	2	4	4	8	£ 600,000.00	£ 800,000.00	£ 1,000,000.00	20%	£ 120,000	£ 160,000	£ 200,000	Risk reduction through the development of a robust procurement strategy aligned with procurement criteria	HBC	Open
14	Environmental	Impact on visual receptors requires amendments to scheme design	Poor public perception and reputational damage Re-design of scheme elements Delays to programme	3	3	3	9	£ 200,000.00	£ 400,000.00	£ 600,000.00	50%	£ 100,000	£ 200,000	£ 300,000	Risk reduction through completion of preliminary research study to identify presence and required survey/mitigation.	HBC	Open
15	Environmental	Impact of delivery results in detrimental effect on noise for sensitive receptors along route	Failure to meet objectives Poor public perception and reputational damage Re-design of scheme elements Delays to other programme dependencies Costs to improve traffic noise attenuation	2	3	3	6	£ 200,000.00	£ 400,000.00	£ 600,000.00	20%	£ 40,000	£ 80,000	£ 120,000	Risk reduction through modelling of noise impacts of scheme.	HBC	Open